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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,681	06/18/2001	Ashok Singhal	M-8496 US	1044

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PATENT LAW GROUP LLP
2635 NORTH FIRST STREET
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SAN JOSE, CA 95134

EXAMINER

PATEL, NIMESH G

ART UNIT	PAPER NUMBER
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2112

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,681

Applicant(s)

SINGHAL ET AL.

Examiner

Nimesh G Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Cohen('464).

3. Regarding claim 1, Cohen discloses a node controller(Figure 1, 18) for a data storage system having at least one node for providing access to a data storage facility(Figure 1, 30), the node controller distinct from a computer-memory complex, the node controller providing overall control for transferring data through the node.

4. Regarding claim 2, Cohen discloses a node controller comprising a logic engine operable to perform a logic operation on data from at least one data source in the data storage system(Column 6, Lines 5-7).

5. Regarding claim 3, Cohen discloses a node controller at least one data source is one of an interconnect link, a peripheral component interconnect (PCI) bus, or a cluster memory(Figure 1).

6. Regarding claim 4, Cohen discloses a node controller using combinational logic and registers to form different circuits in the memory controller(Column 6, Lines 5-7).

Cohen does not specifically disclose an address comparator using an exclusive OR

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engine. However, Malinowski('441) uses a plurality of exclusive OR gates in an address comparator.

7. Regarding claim 5, Cohen discloses a node controller comprising a command queue operable to store a logic control block(Column 5, Lines 24-43).

8. Regarding claim 6, Cohen discloses a node controller comprising a memory controller operable to interface with a cluster memory(Figure 1, 20).

9. Regarding claim 7, Cohen discloses a node controller, wherein the node controller is implemented as an integrated circuit device(Figure 1, 18).

10. Regarding claim 8, Cohen discloses a node controller comprising a peripheral component interconnect (PCI) control interface operable to support an interface between the node controller and a PCI bus(Column 5, Lines 13-23).

11. Regarding claim 9, Cohen discloses a node controller comprising a logic engine operable to perform a logic operation on data from at least one data source in the data storage system(Column 6, Lines 5-7) and a command queue coupled to the logic engine, the command queue operable to store a logic control block which can be processed by the logic engine(Column 5, Lines 24-43).

12. Regarding claim 10, Cohen discloses a node controller wherein the at least one data source is one of an interconnect link, a peripheral component interconnect (PCI) bus, or a cluster memory(Figure 1).

13. Regarding claim 11, Cohen discloses a node controller using combinational logic and registers to form different circuits in the memory controller(Column 6, Lines 5-7).

Cohen does not specifically disclose an address comparator using an exclusive OR

engine. However, Malinowski('441) uses a plurality of exclusive OR gates in an address comparator.

14. Regarding claim 12, Cohen discloses a node controller comprising a memory controller(Figure 1, 18) operable to interface with a cluster memory(Figure 1, 20).

15. Regarding claim 13, Cohen discloses a node controller, wherein the node controller is implemented as an integrated circuit device(Figure 1, 18).

16. Regarding claim 14, Cohen discloses a node controller a peripheral component interconnect (PCI) control interface operable to support an interface between the node controller and a PCI bus(Column 5, Lines 13-23).

17. Regarding claim 15, Cohen discloses a node controller wherein the node controller is operable to be programmed by the computer-memory complex(the computer-memory complex would have to initialize the node controller and therefore would have to "program" the controller).

18. Regarding claim 16, Cohen discloses a producer register operable to specify a first address of the command queue and a consumer register operable to specify a second address of the command queue (Column 5, Lines 24-43).

19. Regarding claim 17, Cohen discloses a node controller comprising a peripheral component interconnect (PCI) control interface operable to support an interface between the node controller and a PCI bus(Column 5, Lines 13-23); a memory controller operable to interface with a cluster memory in the node(Figure 1, 20); a logic engine coupled to the PCI control interface and the memory controller, the logic engine operable to perform a logic operation on data from the PCI bus or the cluster

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memory(Column 6, Lines 5-7); and a command queue coupled to the logic engine, the command queue operable to store a logic control block which can be processed by the logic engine Column 5, Lines 24-43).

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Macmahan et al.(US2002/0161902) and Kumar et al.(US2002/0087765) discloses systems using node controllers.

Chong Jr.('155) discloses using a node controller to relieve data bandwidth in a storage controller.

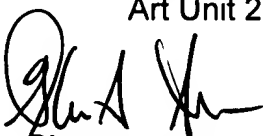
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nimesh G Patel whose telephone number is 703-305-7583. The examiner can normally be reached on M-F, 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

Nimesh G Patel
Examiner
Art Unit 2112

NP
NP


Glenn A. Auve
Primary Patent Examiner
Technology Center 2100

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